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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE **Group 2700**

Applicants: Kazutoshi YASUNAGA et al.

Appl. No: 09/440,093

Filed: November 15, 1999

For: EXCITATION VECTOR GENERATOR, SPEECH CODER AND  
SPEECH DECODER



Group Art Unit : 2741

Examiner: Opsasnick

#4  
TLR  
5/1/00

### **INFORMATION DISCLOSURE STATEMENT**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure under 37 C.F.R. 1.56, 1.97-1.98,

Applicants hereby call the following materials to the Examiner's attention:

M.R. SCHROEDER et al., "Code-Excited Linear Prediction (CELP): High-Quality Speech at Very Low Bit Rates", Proc. ICASSP, pp. 937-940 (1985), cited on page 1 of the present application;

R. SALAMI et al., "8 KBIT/S ACELP Coding of Speech With 10 MS Speech-Frame: A Candidate for CCITT Standardization", ICASSP, pp. II-97 to II-100 (1994), cited on page 7 of the present application;

LINDE et al., "An Algorithm For Vector Quantizer Design", IEEE Transactions On Communications, Vol. Com-28, No. 1, pp. 84-95 (1980), cited on pages 113 and 120

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of the present application;

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MIKI et al., "A PITCH SYNCHRONOUS INNOVATION CELP (PSI-CELP)

CODER FOR 2-4 KBIT/S", 1994 IEEE, pp. II-13 to II-116 (1994);

Japanese Patent Publication No. 07-295598A, published on November 10, 1995,  
along with an English language abstract;

Japanese Patent Publication No. 06-202697, published on July 22, 1994, along  
with an English language abstract;

Japanese Patent Publication No. 2-12300, published on January 17, 1990, along  
with an English language abstract;

Japanese Patent Publication No. 08-044400A, published on February 16, 1996,  
along with an English language abstract;

Japanese Patent Publication No. 08-016196A, published January 19, 1996, along  
with an English language abstract;

Japanese Patent Publication No. 06-175695A, published on June 24, 1994, along  
with an English language abstract;

Japanese Patent Publication No. 08-006600A, published on January 12, 1996,  
along with an English language abstract; and

Japanese Patent Publication No. 08-279757A, published on October 22, 1996,  
along with an English language abstract.

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All of the above documents are of record in parent application 09/101,186, filed on July 6, 1998, such that copies are not enclosed herewith.

Applicants further note the following co-pending, commonly assigned patent applications:

U.S. Patent Application No. 09/091,823, filed on July 1, 1998;

U.S. Patent Application No. 09/101,186, filed on July 6, 1998;

U.S. Patent Application No. 09/440,087, filed on November 15, 1999;

U.S. Patent Application No. 09/440,083, filed on November 15, 1999;

U.S. Patent Application No. 09/440,092, filed on November 15, 1999;

U.S. Patent Application No. 09/440,199, filed on November 15, 1999.

In accordance with 37 C.F.R. 1.98(a)(2)(iii), copies of the above-mentioned applications are not attached hereto. The Examiner is requested to review the file wrapper of these U.S. patent applications at the U.S. Patent and Trademark Office. Of course, if for any reason the Examiner cannot locate the application, Applicants will provide any requested materials, if possible.

In addition, Applicants bring the following to the attention of the Examiner:

Japanese Patent Publication No. 9-6396, published on January 10, 1997, along with an English language Abstract;

Japanese Patent Publication No. 10-63300, published on March 6, 1998, along

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with an English translation thereof;

WO 99/12156, published March 11, 1999, to Ericson; and

International Telecommunication Union, "Series G: Transmission Systems and Media, Digital systems and Networks -Coding of speech at 8kbit/s using Conjugate Structure Algebraic Code Excited Linear-Prediction (CS-ACELP); Annex D: 64 kbit/s S-ACELP speech coding algorithm, published September 1998.

Applicants note that the following documents were cited in the European Search Report for EP 99 12 6129, a counterpart of the present application, in which the following documents were cited:

SALAMI et al., "Real-Time Implementation of a 9.6 Kbit/s ACELP Wideband Speech Coder." Proceedings of the Global Telecommunications Conference, U.S., New York, IEEE, vol -, 1992, pages 447-451, has been cited as an "X" category document (i.e., a document particularly relevant if taken alone) as relevant to claim 1-3 and 7-10 of EP application No. 99 12 6129. Fig. 1 and paragraph "00IV!" were indicated as relevant sections.

KIM et al., "A Complexity Reduction Method for VSELP Coding Using Overlapped Sparse Basis Vectors." Proceedings of the International Conference on Signal Processing Application and Technology, October 18, 1994, has been cited as an "A" category document (i.e., a document indicating technological background) as

relevant to claims 1 and 14 of EP application No. 99 12 6129. Fig. 1 and paragraph “0III!” were indicated as relevant sections.

MILLAR et al., “A Multipulse Speech Codec for Digital Cellular Mobile Phone Use.” Proceedings on the Workshop on Speech Coding for Telecommunications, U.S., Boston, Kluwer, vol. -, 1989, pages 87-96, has been cited as an “A” category document (i.e., a document of technological background) as relevant to claims 1 and 14 of EP application No. 99 12 6129. Page 90 was identified as a relevant passage.

EP 680 032 to Nippon Electric Co., published November 2, 1995, has been cited as an “A” category document (i.e., a document indicating technological background) as relevant to claims 1 and 14 of EP application No. 99 12 6129. Page 5, lines 48-57 was identified as relevant.

U.S. Patent 5,293,449 to TZENG, issued March 8, 1994, has been cited as an “A” category document (i.e., a document indicating technological background) as relevant to claims 1 and 14 of EP application No. 99 12 6129. Page 4 was identified as a relevant passage.

Applicants note that a European Search Report for EP 99 12 6130, another counterpart of the present application, cited documents (6)-(9) above as “A” category documents (i.e., documents indicating technological background) as relevant to claims 1 and 14 of EP 99 12 6130.

Applicants note that a European Search Report for EP 99 12 6131, another counterpart of the present application, cited documents (6)-(9) above as "A" category documents (i.e., documents indicating technological background) as relevant to claims 1 and 14 of EP 99 12 6131.

Applicants hereby bring to the attention of the Examiner the European Search Report for EP 99 12 6132, a counterpart of the present application, in which the following documents were cited:

KIM et al., "A Complexity Reduction Method for VSELP Coding Using Overlapped Sparse Basis Vectors." Proceedings of the International Conference on Signal Processing Application and Technology, October 18, 1994, has been cited as an "A" category document (i.e., a document indicating technological background) as relevant to claims 1 and 11 of EP application No. 99 12 6132. Fig. 1 and paragraph "0III!" were indicated as relevant sections.

EP 680 032 to Nippon Electric Co., published November 2, 1995, has been cited as an "A" category document (i.e., a document of technological background) as relevant to claims 1 and 11 of EP application No. 99 12 6132. Page 5, lines 48-57 was identified as a relevant passage.

JP 5-281999, published October 29, 1993, and an English Abstract of the same, has been cited as an "A" category document (i.e., a document of technological

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background) as relevant to claims 1 and 11 of EP application No. 99 12 6132. The abstract was identified as relevant.

U.S. Patent 5,293,449 to TZENG, issued March 8, 1994, has been cited as an "A" category document (i.e., a document of technological background) as relevant to claims 4 and 14 of EP application No. 99 12 6132. Fig. 4 was identified as relevant.

Applicants hereby bring to the attention of the Examiner the European Search Report for EP 97 91 1460, a counterpart of the present application, in which the following documents were cited:

EP 488 751 to Sharp KK, published June 3, 1992, has been cited as an "A" category document (i.e., a document of technological background) as relevant to claims 1, 12, 20, 37, 43, 57, and 62 of EP application No. 97 91 1460. Column 2, lines 5-11 and 30-34; and column 3, line 42 through column 5, line 18, were indicated as relevant.

U.S. Patent No. 5,428,561 to BRYANT et al., issued June 27, 1995, has been cited as an "A" category document (i.e., a document of technological background) as relevant to claims 1, 12, 20, 37, 43, 57, and 62 of EP application No. 97 91 1460. Column 3, line 62 through column 4, line 7, was indicated as relevant.

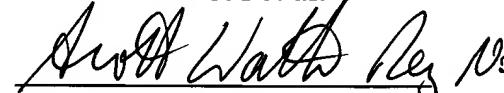
Applicants respectfully request that the Examiner consider and cite all of the above documents. Copies of the above-noted documents (where noted) are attached and have been listed on a PTO-1449 Form which is also attached hereto. Accordingly, the Examiner is requested to initial the appropriate spaces on the attached PTO-1449 Form

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and to return a copy of the Form to the Applicants with the next official communication in the present application to confirm consideration of these documents.

If there are any questions, the Examiner may contact the undersigned at the below listed number.

Respectfully submitted,  
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Bruce H. Bernstein  
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April 25, 2000

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